

AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Previously Presented) A method for controlling an SCR-type switch, comprising applying to a switch gate of the SCR-type switch several periods of an unrectified high frequency voltage in succession, such that an accumulated effect on the SCR-type switch of applying the several periods in succession is to start the SCR-type switch, a power of each halfwave of the several periods being individually insufficient to start the SCR-type switch.

2. (Previously presented) The method of claim 1, wherein the high frequency voltage oscillates at a selected frequency between 10 kHz and a few GHz.

3. (Previously presented) The method of claim 1, wherein the high frequency voltage is applied via an insulating layer formed above a starting area of the component.

4. (Previously presented) The method of claim 3, wherein the high frequency voltage is applied above a gate region of a thyristor.

5. (Previously presented) The method of claim 3, wherein the high frequency voltage is applied above a gate region of a triac.

6. (Previously presented) The method of claim 3, wherein the high frequency voltage is applied via a high-frequency line having terminals for connection to the high frequency voltage.

7. (Previously presented) The method of claim 3, wherein the high frequency voltage is applied via a winding that generates a magnetic field or responds to a magnetic field.

8. (Previously Presented) An SCR-type switch component, comprising two main electrodes and at least one control electrode formed on an insulating layer that insulates the control electrode from a starting region of the component, said control electrode controlling the SCR-type switch component in response to an unrectified high frequency power supply that supplies several periods of an unrectified high frequency voltage in succession, wherein the SCR-type switch component is configured such that the SCR-type switch component is not turned on in response to an individual one of the several periods, wherein the SCR-type component is configured such that an accumulated effect of applying the several periods in succession causes the SCR-type switch to turn on.

9. (Previously presented) The SCR-type switch component of claim 8, wherein the control electrode is arranged above a gate region of a thyristor.

10. (Previously Presented) The SCR-type switch component of claim 8, wherein the control electrode is arranged above a gate region of a triac.

11. (Previously Presented) The SCR-type switch component of claim 8, wherein the control electrode is a high-frequency line having terminals for connection to the high frequency power supply.

12. (Previously Presented) The SCR-type switch component of claim 8, wherein the high frequency is applied via a winding that generates a magnetic field or responds to a magnetic field.

13. (Previously Presented) A method of controlling an SCR-type switch, the method comprising:

providing, to a control terminal of the SCR-type switch, a high-frequency control voltage that controls the SCR-type switch without supplying current from the control terminal to a starting area of the SCR-type switch, wherein the high-frequency control voltage comprises a plurality of halfwaves, wherein the SCR-type switch is turned on in response to an accumulated effect of the plurality of halfwaves, an individual one of the plurality of halfwaves being of insufficient intensity and/or duration to start the switch by itself.

14. (Previously Presented) The method of claim 13, wherein the high frequency voltage oscillates at a frequency that is between 10 kHz and a few GHz.

15. (Previously Presented) The method of claim 13, wherein the high frequency voltage oscillates at a frequency of 1 MHz or higher.

16. (Previously presented) The method of claim 13, wherein the high frequency control voltage is provided to the control terminal through a capacitor.

17. (Previously presented) The method of claim 13, wherein the control terminal is insulated from the starting area.

18. (Previously presented) The method of claim 13, wherein the high-frequency control voltage comprises a plurality of halfwaves, wherein each one of the plurality of halfwaves is individually insufficient to turn on the SCR-type switch.

19. (Previously presented) The method of claim 18, wherein a power of each one of the plurality of halfwaves is individually insufficient to turn on the SCR-type switch.

20. (Previously presented) The method of claim 18, wherein a voltage of each one of the plurality of halfwaves is individually insufficient to turn on the SCR-type switch.

21. (Previously presented) The method of claim 18, wherein a duration of each one of the plurality of halfwaves is individually insufficient to turn on the SCR-type switch.

22. (Canceled)

23. (Previously presented) The method of claim 13, wherein the high-frequency control voltage is unrectified.

24. (Previously presented) The method of claim 13, wherein the high-frequency control voltage is applied via a winding that generates a magnetic field or responds to a magnetic field.

25. (Previously Presented) A method of controlling an SCR-type switch, the method comprising:

providing a high frequency control signal to a gate of the SCR-type switch that controls the SCR-type switch, the high frequency control signal having a frequency of 1 MHz or higher, wherein a duration of a single halfwave of the high frequency control signal is insufficient for the single halfwave to turn on the SCR-type switch;

wherein the control signal is provided to the gate through a capacitor.

26. (Previously Presented) An method of controlling an SCR-type switch, the method comprising:

providing a high-frequency control voltage to a gate of the SCR-type switch that controls the SCR-type switch;

wherein the SCR-type switch is turned on in response to an accumulated effect of a plurality of halfwaves of the high-frequency control voltage but is not turned on in response to an effect of an individual one of the plurality of halfwaves.

27. (Previously Presented) An SCR-type switch, comprising:

a starting region;
an insulating region; and
a first control electrode that is insulated from the starting region by the insulating region; wherein the SCR-type switch is controlled by applying a high-frequency control voltage to the control electrode;
wherein the SCR-type switch is turned on in response to an accumulated effect of a plurality of halfwaves of the high-frequency control voltage.

28. (Previously presented) The SCR-type switch of claim 27, wherein the first control electrode is completely insulated from the starting region.

29. (Previously presented) The SCR-type switch of claim 27, wherein the first control electrode is inductively coupled to the starting region via the insulating region.

30. (Previously presented) The SCR-type switch of claim 27, wherein the first control electrode is capacitively coupled to the starting region via the insulating region.

31. (Previously presented) The SCR-type switch of claim 30, wherein the first control electrode contacts the insulating region.

32. (Previously presented) The SCR-type switch of claim 31, wherein the insulating region contacts the starting region.

33. (Previously presented) The SCR-type switch of claim 27, wherein the first control electrode is insulated, via the insulating layer, from a semiconductor substrate in which semiconductor layers of the SCR-type switch component are formed.

34. (Previously presented) The SCR-type switch of claim 27, further comprising:

a second control electrode that is insulated from the starting region by the insulating region.

35. (Previously presented) The SCR-type switch of claim 34, wherein the starting region comprises a first region of a first conductivity type and a second region of a second conductivity type, wherein the first control electrode is closer to the first region than to the second region, and wherein the second control electrode is closer to the second region than to the first region.

36. (Previously presented) The SCR-type switch of claim 27, wherein the first control electrode contacts the insulating region.

37. (Previously presented) The SCR-type switch of claim 27, wherein the insulating region contacts the starting region.

38. (Previously presented) The SCR-type switch of claim 27, wherein the SCR-type switch is a triac.

39. (Previously presented) The SCR-type switch of claim 27, wherein the SCR-type switch is a thyristor.

40. (Canceled)

41. (Previously Presented) The SCR-type switch of claim 27, wherein the effect of the plurality of halfwaves of the high-frequency control voltage being applied to the control electrode close enough in time and large enough in intensity such that the accumulated effect of the plurality of halfwaves gradually increases over time and thereby turns on the SCR-type switch, wherein the SCR-type switch is not turned on in response to an effect of an individual one of the plurality of halfwaves applied by itself.

42. (Currently Amended) The SCR-type switch of claim 27 [[40]], wherein the high-frequency control voltage oscillates at a frequency of 1 MHz or higher.

43. (Currently Amended) The SCR-type switch of claim 27 [[40]], wherein the high-frequency control voltage controls the SCR-type switch without supplying current from the control terminal to the starting area.

44. (Previously presented) The method of claim 25, wherein providing, to the gate of the SCR-type switch, a plurality of halfwaves of the high frequency voltage in succession turns on the SCR-type switch.

45. (Previously presented) The method of claim 44, wherein providing the plurality of halfwaves of the high frequency voltage in succession creates an accumulated effect at a starting area of the SCR-type switch that is sufficient to turn on the SCR-type switch.